REMARKS

Claims 1-14 are pending in this application. Claim 1 is the sole independent claim. Claims 1 and 3 are amended. The amendment to claim 1 finds basis in the sentence bridging pages 4 and 5 of the specification. Claim 15 was previously cancelled. Claims 1 and 3-8 are directed to the elected invention. Claims 2 and 9-14 are directed to a non-elected invention and may be cancelled by the examiner upon the allowance of the claims directed to the elected invention. The amendments to the claims do not introduce any new matter.

Entry of the Amendment is requested under 37 C.F.R. § 1.116 because the Amendment: a) places the application in condition for allowance for the reasons discussed herein; b) does not present any additional claims without canceling the corresponding number of final rejected claims; and/or c) places the application in better form for an appeal, if an appeal is necessary. Entry of the Amendment is thus respectfully requested.

Claims 1 and 3-8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Japanese Patent Application No. 2001/340078 to Satoshi et al. (hereinafter also referred to as "Satoshi") in view of International Publication No. WO 96/25509 to Naylor et al. (hereinafter also referred to as "Naylor"). The cited references do not render obvious claims 1 and 3-8.

The present invention relates to using microorganisms which can produce copolyester without using a fatty acid as a carbon source. By using such a microorganism, control of the monomer composition of the copolyester is enabled simply by adjusting the specific substrate feed rate. The addition of a fatty acid, such as propionic acid, is not necessary.

According to the Office Action, the constant specific substrate feed rate in the present invention is substantially the same as the average oil uptake ratio which is described in Example 1 in Naylor et al. In view of this conclusion, claims 1, 3-8 and 15 were held to be obvious over Satoshi et al and Naylor et al. However, claims 1, 3-8 and 15 are unobvious over cited references.

In particular, the microorganism used in Example 1 in Naylor et al. differs significantly from the microorganism used according to the present invention since propionic acid is essential for production of the polyhydroxybutyrate/-valerate (PHBV) copolyester according to Naylor et al.

It should be noted that when propionic acid is added as the carbon source in the culture medium, microoganisms convert the propionoic acid to 3-hyroxypentanoyl-CoA, via propionyl-CoA. Then 3-hydroxypentanoyl-CoA leads to the production of the PHBV copolyester. By this synthetic pathway, the microorganism in Naylor et al. can produce a polyester comprising PHBV only when propionic acid is present in the culture medium.

Moreover, on page 4, first full paragraph, Naylor et al. state that "If the aliphatic acid contains an even number of carbon atoms and is the sole carbon source in step (e), the product PHA is substantially or wholly polyhydroxybutyrate (PHB) homopolymer. If polyhydroxybutyrate/- valerate (PHBV) is required, there should be present a carbon source containing an odd number of carbon atoms; this may be part or all of the aliphatic acid (derivative) or may be additional thereto, for example propionic acid or n-propyl alcohol." This description shows that addition of propionic acid is essential for production of PHBV in Example 1. If propionic acid were not added, PHBV would not be produced and, instead, PHB homopolymer would be produced.

Therefore, even based on Naylor et al., a person skilled in the art would not be led to employ the microorganism according to the present invention, and would not produce polyesters without addition of a fatty acid.

Naylor et al. recite on page 2, line 28, that "assimilable carbon compound is normally fed gradually so as to avoid exceeding the provision of oxygen for the aerobic fermentation and to avoid a toxic concentration of such compound." Thus, the purpose of adjusting average oil uptake rate in Naylor et al. is merely to avoid the toxicity.

Based on this description, it is not possible to expect that the monomer composition of the polyester can be controlled by adjusting the specific substrate feed rate. Accordingly, the results achievable by the present invention are not suggested by the cited art and are unexpected in view of the cited art.

The mere fact that the cited art may be modified in the manner suggested in the Office Action does not make the modification obvious, unless the cited art suggests the desirability of the modification or adequate rationale exists to do so. No such suggestion appears in the cited art in this matter nor has the requisite rationale been adequately articulated. . The Examiner's attention is kindly directed to *KSR Int'l Co. v. Teleflex, Inc*, 127 S. Ct. 1727 (2007); *In re Lee* 61 USPQ2d 1430 (Fed. Cir. 2002), *In re Dembiczak et al*. 50 USPQ2d. 1614 (Fed. Cir. 1999), *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1984), *In re Laskowski*, 10 USPQ2d. 1397 (Fed. Cir. 1989) and *In re Fritch*, 23, USPQ2d. 1780 (Fed. Cir. 1992).

Also, the cited art lacks the necessary direction or incentive to those of ordinary skill in the art to render a rejection under 35 USC 103 sustainable. The cited art fails to provide the degree of predictability of success of achieving the properties attainable by the present invention as discussed above such as the extremely small and substantially completely spherical fine particles needed to sustain a rejection under 35 USC 103. See *KSR Int'l Co. v. Teleflex, Inc*, supra; *Diversitech Corp. v. Century Steps, Inc.* 7 USPQ2d 1315 (Fed. Cir. 1988), *In re Mercier*, 187 USPQ 774 (CCPA 1975) and *In re Naylor*, 152 USPQ 106 (CCPA 1966). As discussed above, the improved solubility is not suggested by the cited art.

Moreover, the properties of the subject matter and improvements which are inherent in the claimed subject matter and disclosed in the specification are to be considered when evaluating the question of obviousness under 35 USC 103. See *KSR Int'l Co. v. Teleflex, Inc*, supra; *Gillette Co. v. S.C. Johnson & Son, Inc.*, 16 USPQ2d. 1923 (Fed. Cir. 1990), *In re Antonie*, 195, USPQ 6 (CCPA 1977), *In re Estes*, 164 USPQ 519 (CCPA 1970), and *In re Papesch*, 137 USPQ 43 (CCPA 1963).

No property can be ignored in determining patentability and comparing the claimed invention to the cited art. Along these lines, see *In re Papesch*, supra, *In re Burt et al*, 148 USPQ

548 (CCPA 1966), *In re Ward*, 141 USPQ 227 (CCPA 1964), and *In re Cescon*, 177 USPQ 264 (CCPA 1973).

In view of the above, consideration and allowance are respectfully solicited.

In the event the Examiner believes an interview might serve in any way to advance the prosecution of this application, the undersigned is available at the telephone number noted below.

The Office is authorized to charge any necessary fees due with this paper to Deposit Account No. 22-0185, under Order No. 21581-00476-US from which the undersigned is authorized to draw.

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Respectfully submitted,

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